

VERTEBRAL HEMANGIOSARCOMA AS A CAUSE OF SPINAL CORD COMPRESSION IN A HORSE

HEMANGIOSSARCOMA DE VÉRTEBRA COMO CAUSA DE COMPRESSÃO DA MEDULA ESPINHAL EM UM EQÜINO

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SUMMARY

A case compression of the spinal cord in a horse by a tumor located in the vertebra is described. A 10-year-old gelding was euthanized after being found recumbent with hind limb paresis of unknown duration. At necropsy an hemangiosarcoma was detected in the vertebral body of T₃. The tumoral mass invaded upwards through the bone tissue of the vertebral body into the vertebral canal, compressing the spinal cord and causing Wallerian degeneration at T_{1,3} levels of the cord.

Key words: bone tumors, equine, pathology.

RESUMO

É relatado um caso de compressão da medula espinhal em um cavalo por um tumor localizado na vértebra. Um eqüino, macho, castrado de 10 anos de idade foi sacrificado após ser encontrado em decúbito com paresia dos membros posteriores de duração desconhecida. Na necropsia, um hemangioossarcoma foi detectado no corpo da vértebra T₃. A massa invade o tecido ósseo do corpo da vértebra, penetrava o canal vertebral e comprimia a medula espinhal, causando degeneração walleriana ao nível dos segmentos T_{1,3}.

Palavras-chave: tumores ósseos, eqüino, patologia.

INTRODUCTION

Hemangiosarcomas (angiosarcoma, malignant hemangioendothelioma) are malignant tumors arising from precursor cells of vascular endothelium (POOL, 1990) and thus can occur at any site. Among

domestic animals they are reported more frequently in the spleen, heart, liver and lungs of dogs (PULLEY & STANNARD, 1990). Hemangiosarcomas are uncommon tumors in horses and those arising in bone tissue are particularly rare in this species (SUNDBERG *et al.*, 1977; POOL, 1990).

We report and hemangiosarcoma arising in the vertebra of a horse and compressing the spinal cord.

CASE REPORT

A 10-year-old, mixed breed gelding was found recumbent with paraparesis. Neurological signs were not observed prior to that but may have been neglected since the horse was at pasture and was not observed regularly. At presentation rectal prolapse, flaccidity and lack of deep pain response in the hind limbs were noticed. The horse was euthanized and necropsied (Pathology Protocol # Vn-215-93).

RESULTS AND DISCUSSION

At post-mortem examination, there were locally extensive subcutaneous edema and echymosis in the head attributed to self inflicted trauma during struggling. Within the vertebral canal of T₃, ventral to the spinal cord, two 2.0x1.0x0.5cm soft, dark red, epidural masses, protude from each side of the canal

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and compressed both sides of the spinal cord. In transverse cut sections of T₃ these masses revealed to be continuous with similar proliferation within the vertebral body. Bone tissue at these areas was replaced by this soft, moist, and dark red mass. Adjacent soft tissues and other vertebrae were not involved.

On microscopic examination, the mass consisted of large pleomorphic spindle cells with indistinct cytoplasmic limits and large, round to oval, somewhat vesicular nuclei with coarse granular chromatin and prominent single or multiple nucleoli. Mitosis averaged one per high power field. These cells were arranged in interlacing bundles which enclosed blood-filled spaces (Figure 1); the bundles were surrounded by fine strands of connective tissue stroma. Thrombosis and large areas of necrosis were abundant within the tumor mass. In many areas neoplastic cells appear invading the bone tissue. Lesions in the spinal cord involved segments of T₁₋₃ and consisted of severe Wallerian degeneration. There were vacuolation of the white matter funiculi and ballooning of axons. Lesions gradually diminished towards T₄ and eventually were absent at T₅ and in the more caudal cord segments.

The vertebral body of T₃ was considered to be the primary site of the tumor since no other masses were found up on carefully post mortem examination. Hemangiosarcomas arising in bones are, to the best of our knowledge, not previously reported in horses although hemangiosarcomas arising in the vertebrae of a cow (ZACHARY *et al.*, 1981) and in the paravertebral musculature of a horse (KENNEDY & BROWN, 1993) with resultant cord compression are described. Primary sites for hemangiosarcomas in horses in previous described cases are skeletal musculature or paravertebral vasculature (KENNEDY & BROWN, 1993), although in most cases the origin was undetermined.

The malignant nature of the neoplasm in this case was evident by the invasion of bone tissue of T₃ vertebral body and by the histological aspects. From the vertebral body the tumor penetrated the vertebral canal and compressed the spinal cord at this level with resultant segmentar Wallerian degeneration. The paresis and other clinical signs observed in this horse are attributable to the spinal cord lesion.

Spinal cord compression by neoplasms are uncommon causes of progressive neurological signs in horses. Other reported tumors causing spinal cord compression in horses include plasm cell myeloma (DREW GREATOREX, 1974), fibrosarcoma

(REINERTSON, 1974), lymphosarcoma (SHAMIS, *et al.*, 1984), melanoma (SCHOTT *et al.*, 1990), and hemangiosarcoma (KENNEDY & BROWN, 1993).

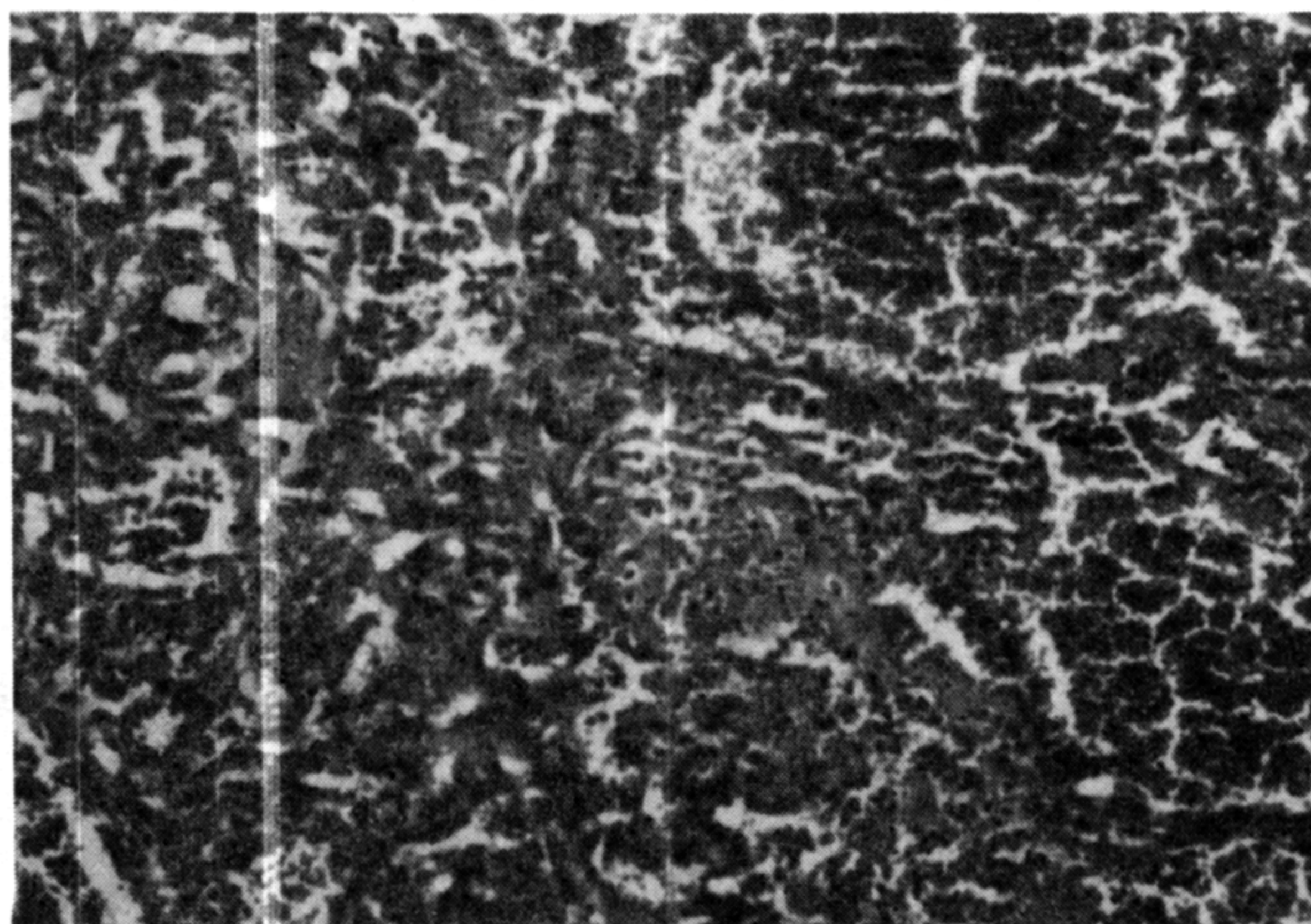


Figure 1 - Horse, hemangiosarcoma of the vertebra. Histologic aspect. Spindle cells with indistinct cytoplasmic limits arranged in interlacing bundles enclosing blood-filled spaces. Obj. 6.3. H & E stain.

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